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## **ABSTRACT**



A coding method specifies pulse positioning over time according to a time layout about a time reference where a pulse can be placed at any location within the time layout. The method generates time-hopping codes having predefined properties, and a coded pulse train based on the time-hopping codes and the time layout. The time reference may be fixed or non-fixed and can be a time position of a preceding or a succeeding pulse. In addition, the predefined properties can be autocorrelation, cross-correlation, or spectral properties.